

Strength in unity: the power of redesign to align the hospital team

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Abstract

Objective. The aim of Queen Elizabeth II Jubilee Hospital (QEII) redesign project (QEII United) was to enhance timely access to an inpatient bed and maximise opportunities to value add during the inpatient episode of care.

Methods. A tripartite relationship between the hospital team, system manager and external consultants. The team, QEII United, was formed to 'diagnose, solve and implement' change under the unifying metaphorical banner of a football team. A marketing strategy and communication plan targeted the key 'players' and outlined the 'game plan'. Baseline data were collected, analysed and reported in keeping with key aims. Strategies for systems improvement implementation were attached to key performance indicators (KPIs).

Results. Thematic KPIs were developed to embed internal process change to reflect the contributions made towards the National Emergency Access Target (NEAT) at each stage of the patient journey. As such, access block of under 20%, morning discharge rates of 50% before midday, reduced length of stay for selected elective orthopaedic and general medical diagnostic related groupings (DRGs; i.e. relative stay index ≤ 1) and hospital in the home (HITH) utilisation rates 1.5% of all admissions were all met. Key to sustainability was the transfer of clinical redesign skills to hospital staff and the fostering of emergent ground up leadership.

Conclusions. QEII United's success has been underpinned by the development of themed solution areas developed by the hospital staff themselves. Robust baseline data analysis used in combination with nationally available benchmarking data provided a quantitative starting point for the work. The collaborative elements of the program re-energised the hospital team, who were kept informed by targeted communications, to establish quick wins and build trust and momentum for the more challenging areas.

What is known about the topic? Clinical redesign is now commonly used to understand, define and improve those clinical processes that underpin the patient journey across the continuum of care. Different industry models exist and have been extended for use in healthcare settings to involve, engage and educate staff with the primary focus of providing the best possible patient care, in an effective and efficient manner.

What does this paper add? The clinical redesign process outlined in this paper is instructive in its use of the metaphorical team. Team philosophy, composition and functionality was built up using the vernacular of a football competition. In this way, organisational learning and capability building occurred within empowered local action teams, across the 'season' to effect changes at all points of the patient journey.

What are the implications for practitioners? The implications for practitioners are to fully understand the breadth of issues before deciding upon focus areas for improvement. Resistance to change is inevitable and there are a number of ways to mitigate this and create a sense of purpose within the broader clinical group by structuring teams across traditional reporting lines. Collaboration is crucial in keeping lines of communication open and the use of data and patient feedback is very instructive.

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Introduction

The Queen Elizabeth II Jubilee Hospital (QEII) United project was formed as part of a statewide suite of clinical redesign initiatives targeting the National Emergency Access Target (NEAT). Under the metaphorical banner of a sporting team, the QEII United project comprised a multidisciplinary hospital team supported by an external consulting firm with system manager sponsorship.

Integral to the success of this tripartite project was meaningful staff engagement achieved through a thematic marketing and communication strategy. The key point of differentiation for our hospital's redesign project was to underscore it with a football season and team focus.

Setting

The QEII United took place in a metropolitan 160-bed hospital consisting of acute and rehabilitation services.

Participants

Staff across all unit areas were called to participate in the redesign process.

Objectives

The objective of the QEII United team was to assess, define and respond to the challenges imposed under national health reform with the introduction of activity-based funding (ABF) and NEAT, which requires a whole-of-hospital response. The areas targeted for improvement were prioritised by the team for our hospital according to hospital and health service needs and system manager key performance indicators (KPIs) set by the Commonwealth.¹

The specific aims within that broader objective were to improve timely access to inpatient beds for patients getting admitted from the emergency department (ED), reduce the length of stay (LOS) in some clinical areas, use our existing multidisciplinary staff more effectively and train our hospital leaders in clinical redesign methodology to sustain improvements.

Methods

Team philosophy

The project team name was coined at an initial planning meeting and chosen to crystallise the desired project culture, underpinned by teamwork concepts, shared purpose and collegiate communication. The project team was very mindful that NEAT is a whole-of-hospital target and placed strong emphasis on the inpatient components of attaining the target. Readily identifiable football terminology was used to translate redesign jargon to assist in engaging the broader hospital team.

Redesign approach

A sequential clinical process redesign methodology incorporating diagnostics, solution design and sustainable implementation was applied.² Common language, branding, web resources and event planning were used to signify the commencement of each project stage. This scheduling assisted the team in building the timeline to support project accountability.

The continuum of a patient's journey remained the focus throughout, using tools such as value stream mapping to assist the team in identifying and eliminating the non-value-added steps. A rigorous data-driven approach was adopted by QEII United, drawing upon redesign methodologies adapted for clinical use from production industries.³

Staff engagement

A detailed communication and change management strategy was developed to ensure participation from all areas of the hospital, across disciplines, departments and layers of seniority. A project launch, with barbeque lunch and speakers to call for involvement, similar to a sporting club sign up, was undertaken in the initial project phase to signify 'kick off'. The diagnostic data were presented at a data fair, renamed the Match Profile, which highlighted key metrics requiring attention.

Although presentations and reports to hospital executive used formal terminology, updates for staff were in the form of flyers, newsletters and screensavers continuing the sporting theme. 'Team champions' were acknowledged for their redesign efforts in these communications, cementing their role as the go-to person in an area.

Risk assessment

Change and risk and/or readiness assessments were undertaken by performing anonymous staff surveys to determine where further communication and/or 'coaching' was required. In designing solutions for different clinical areas, staff were engaged as part of empowered local action teams, with each having a team captain. QEII United branding assisted in the change process with 'players' wearing red lanyards and team-specific 'champion league passes'. In hindsight, this was a very powerful visual signal of broader staff involvement across the hospital.

Capability building

QEII United included a redesign methodology capacity-building component as part of the contract with our external consultants. Skills in project management and redesign were transferred to the project team and broader hospital team through practical on-the-job training and a formal mentorship and 'coaching' program. The project team tapped into the tacit knowledge of frontline workers as part of this process to ensure that local unit dynamics and issues were accounted for.⁴

Patient satisfaction

Importantly, the patient's perspective was sought using interviews of patients admitted to hospital via the ED. A total of 26 patient interviews were conducted pre-implementation to gain an insight into patient experience of their journey to inform solution design. Patients were identified either the day before or on the day of discharge (12 from surgical wards, 14 from medical wards).

Financial alignment

A review of the impact of ABF and an analysis of current electronic systems in support of patient flow were undertaken in parallel with the clinical aspects of the redesign project. All solution initiatives for implementation were modelled to ensure financial efficiency.

Sequence of events

An initial project start up phase allowed the newly badged QEII United team to strategise and envision the conduct of the redesign project. The redesign stages were incorporated into the project timeline or 'season' (Fig. 1). This included setting the team philosophy and communication strategy outlined above.

The diagnostic phase involved structured interviews of senior staff ($n=56$) across the range of professions and service areas within the hospital. Critical issues relating to challenges and opportunities for patient flow improvement in the context of current care delivery models were elucidated. Subsequent service-specific process analysis sessions were conducted in key clinical areas, for specific patient diagnostic groups and supporting administrative processes. Participants mapped out the process, identified areas of potential delay, described the key challenges staff face and defined the problem/s in each clinical service. The process mapping sessions at this and all subsequent stages were open invitation to facilitate shared understanding across hospital silos.

A mixed methods approach,⁵ incorporating available published evidence and qualitative information, was used to clarify the derived quantitative data when prioritising key problem areas. Once defined, we asked key stakeholders to validate the problems, using formal, minuted feedback sessions. Data from Transition II and the Emergency Department Information System (EDIS) on key targets such as LOS, emergency access, discharge and admission times, were compiled. A hospital-wide invitation was issued to a Match Profile event, which was an opportunity for staff to review and comment on key data (e.g. LOS, emergency access targets and the number of hospital admissions and discharges per hour per day). A comprehensive diagnostic report was developed for further comment and review.

Solution design initiatives were aligned to hospital and health service targets, then prioritised for practical implementation within the project time frame. Four solution areas were established to focus the redesign work: (1) internal ED processes; (2) ED-inpatient interface; (3) bed management; and (4) the logistics of discharge planning. The logistics of discharge planning was further divided into eight teams to maximise ground-up idea generation and engagement. Team members were



Fig. 1. The clinical redesign stages for the Queen Elizabeth II Jubilee Hospital (QEII) redesign project (QEII United) were incorporated into a project timeline or 'season'.

encouraged to consider the ideal future state scenario to encourage blue sky thinking.

Empowered multidisciplinary local action teams were established and 'captained' by a local change champion (Fig. 2). The local action teams provided the opportunity and permission for front-line clinicians to break away from existing vertical reporting lines to influence processes across units and disciplines, in line with the realities of caring for patients as a team. There was strong commitment and uptake of the teams at the local level, with 56 staff directly involved in one solution team or another. The management and administration of the weekly team meetings by the project team assisted clinicians in driving change while continuing their clinical caseloads.

Finally, several solution ideas, applicable across the hospital, were promoted through a shared common development approach between teams. The highly engaged teams were used to pilot and refine initiatives before they were rolled out across the hospital (e.g. multidisciplinary rapid rounds,⁶ day before discharge medications and estimated date of discharge and criteria-led discharge were all trialled first by the flexible internal medicine team before introduction to the surgical and rehabilitation wards). Continual evaluation using metrics and staff feedback was integral to refining the solutions along the way. The project team was cognizant of resistance from influential 'players' and tried to anticipate and respond in an objective manner supported by data to overcome the challenges presented.

Outcomes

Key outcomes of QEII United included significant improvements in LOS (Fig. 3) and morning discharge rates (Fig. 4). Misalignment of hourly discharges when plotted against admissions demonstrated the fundamental principle that beds must first be available before any admissions to them can occur (Fig. 5).



Fig. 2. Empowered multidisciplinary local action teams were established and 'captained' by a local change champion. ED, emergency department.

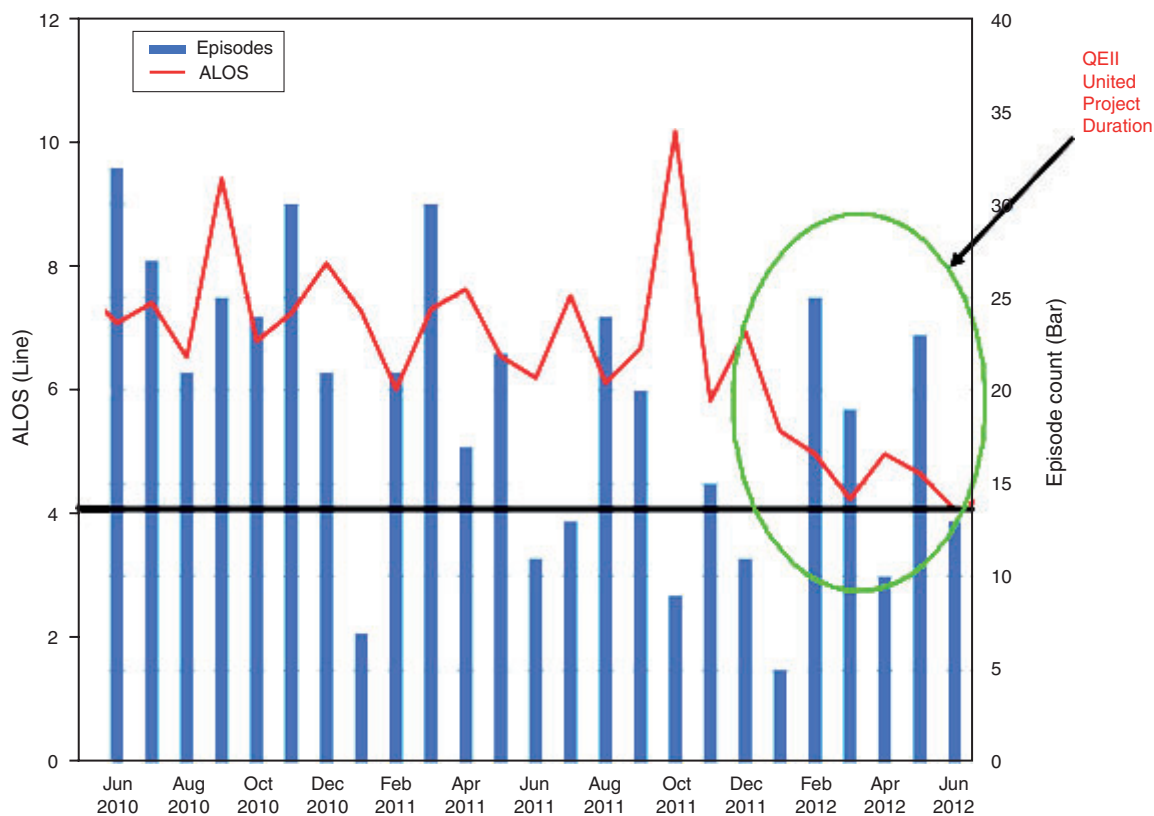


Fig. 3. Queen Elizabeth II Jubilee Hospital (QEII) orthopaedic total knee replacement length of stay and total episodes (number of procedures), June 2010–June 2012. ALOS, average length of stay; QEII United, QEII redesign project.

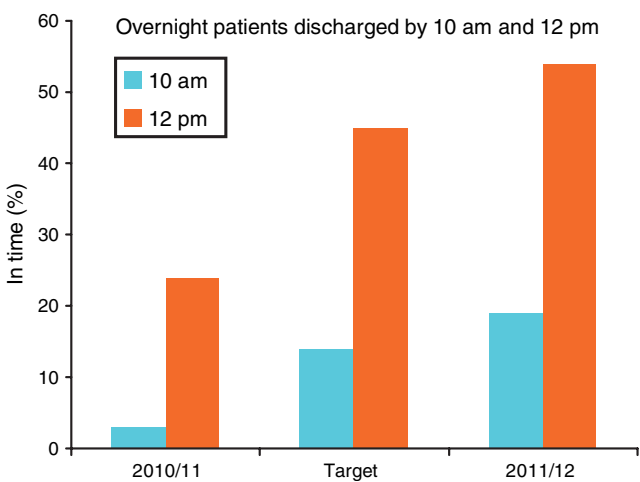


Fig. 4. Discharges by 10 am have improved from 3% in 2010/11 to 19% in 2013 (March average) across all inpatient areas. Discharges by 12 pm have more than doubled since 2010–11 from 24% to 54% in March 2013.

Engagement of the solution teams allowed the successful introduction of key initiatives, such as daily multidisciplinary rapid rounds.⁶ Daily rapid rounds were the platform for discharge planning and coordination initiatives, including estimated date of discharge, timely pharmacy orders, improved referral to HITH and criteria-led discharge.

The refined ED admission to ward process (i.e. ‘making access timely’) paired with development of agreed admission procedures between ED and specialist units signified process changes at the ED–inpatient interface. The combined effects of these initiatives contributed to modest improvements to NEAT, but more noticeable reductions in access block (Fig. 6). HITH referral was promoted for ED and ward patients, which assisted with attainment of admission rates for cellulitis in particular, which was the system-wide KPI at the time. Patients called for improved communication of their management plans, including the proposed discharge date and time. This was a good example of patients wanting what the project team had been driving for and reinforced the need for change within our local action teams.

Problems, conflicts and constraints

Not unexpectedly there was, at many stages, resistance to change within the physician group in particular. Common themes emerged along the lines that individual patient needs prevent standard approaches to care, industry systems (e.g. lean approaches) are unsuitable for use in healthcare and clinician autonomy in decision-making cannot be replicated by a process-driven approach. Value stream mapping sessions highlighted the variability and assisted in attempts at standardisation. For example, one approach taken was to highlight the consultant-led nature of setting individual patient criteria within standard discharge templates.

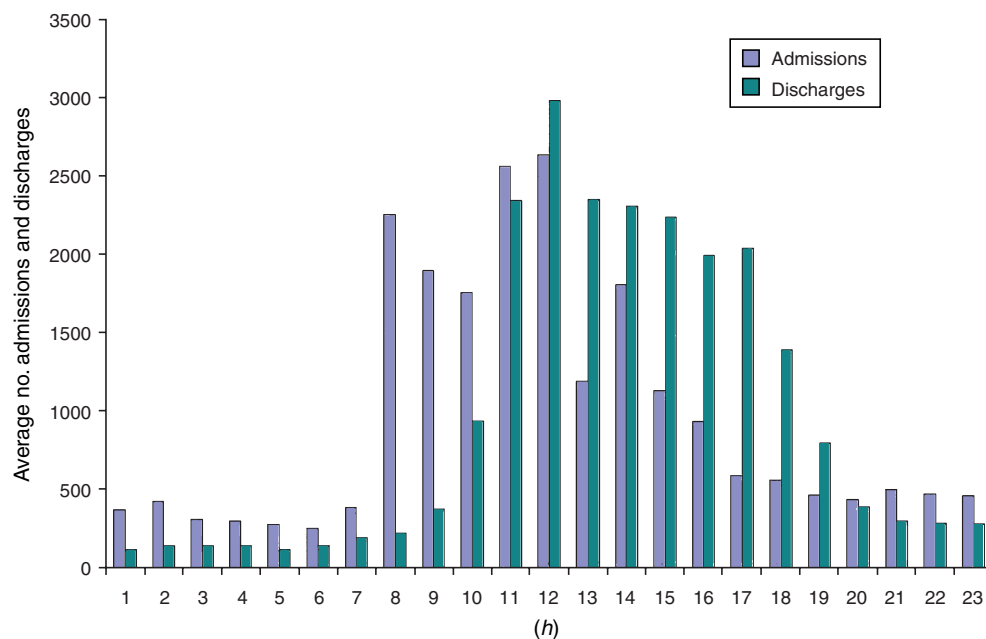


Fig. 5. Average number of admissions versus discharges for each hour of the day from July 2010 to June 2011. There is an imbalance between the time of admissions and the timing of discharges. This imbalance coincides with periods of maximum bed pressure and is a consistently observed phenomenon.

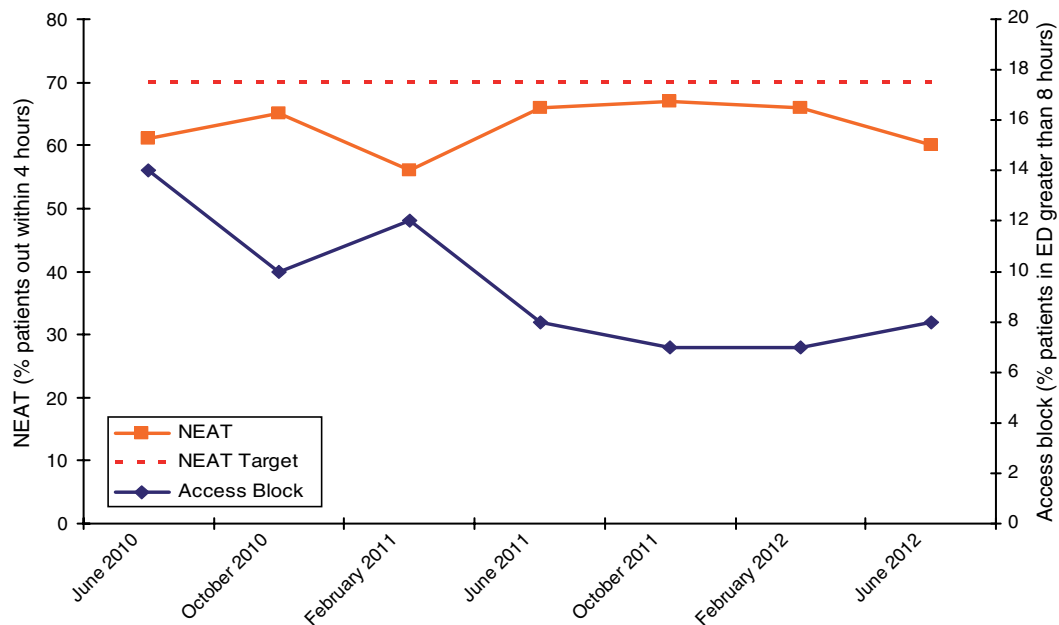


Fig. 6. Improvements in access for patients reflect improvements to the National Emergency Access Target (NEAT). ED, emergency department.

Data integrity concerns were anticipated and mitigated through robust methodology, systematic checking and verification of results. Data are a strong tool with which to engage clinicians in the change process. The disequilibrium between admissions and discharges, for example, emphasised the call for change and was communicated to clinicians at the Match Profile. Objective, external benchmarked data (i.e. health round table)

were critical for acceptance of the need for LOS reductions for some orthopaedic procedure types, for example.

The building of trust and ongoing communication was important with some individuals to mitigate the strong opposing views and data were used extensively to support or refute a particular viewpoint. A highly transparent project timeline, reporting and governance structure was in place and detailed

attendance records of meetings, planning session and process mapping workshops were kept and reported to counter any charge of project team paternalism.

Discussion

In the context of the National Health Reform and ABF, hospital operations have to become more efficient to cope with increased demand for services in the absence of any increase in hospital bed numbers.^{7,8} This case study demonstrates locally led and centrally supported system improvement as part of a state-wide suite of clinical service redesign projects. The point of differentiation for our project was to use a pervasive yet understandable sporting team framework to demystify the process and promote staff engagement. Edmondson⁹ describes how teams learn, interact and develop roles within the boundaries of membership of their team, but emphasises that teaming, when used as a verb, is important for teamwork in dynamic situations.

Edmondson⁹ describes the successful elements of teams and teamwork. QEII United emulated these by framing the project as a learning project, made it safe for staff to form teams, engaged staff to 'sign up' using a themed change and communication strategy and allowed teams to form across status levels and disciplines. When it came to implementation, we encouraged an execution as learning approach rather than simply focusing on the efficiencies to be gained. This approach, in the context of our targets, allowed teams to do things iteratively, experiment and trouble shoot problems. Regular feedback was incorporated so the project team could offer advice and feedback or direct teams to speak to one another to share knowledge. Worley and Lawler¹⁰ highlight four principles of high-involvement work systems, which QEII United recognised: to provide staff with power, information, knowledge and rewards.

With the formation of multidisciplinary action teams across all ward areas, it became evident which teams, and staff, were engaged and willing to trial solution initiatives. These teams were used to pilot and refine solutions. For example, the internal medicine team trialled the discharge planning initiatives, including the introduction of the multidisciplinary meeting titled the 'daily rapid rounds'. Early feedback guided changes to the structure and content of rounds. Misconceptions were addressed and the success on medical wards helped them spread into surgical areas, particularly Orthopaedics, which is now an exemplar site for LOS according to the health round table.¹¹

Research has demonstrated that hospitals, or, in our case, the sponsored project, are not always aligned with physician views. In particular, access to care, quality of care and the costs of care are often under debate.¹² Edmondson implores leaders to cool potential conflict by understanding it, modelling good communication, identifying shared goals and encouraging difficult conversations.⁹ At the outset, certain senior clinicians were identified and engaged by ensuring that the most senior external consultant was available to meet them to understand their issues. Their comments were explicitly included in our reporting. Any and all data were made available to them on request and they were asked to play a greater role in the process so that shared goals could be developed. The project team was often tasked with having the difficult conversation to shield the team captains and ensure they were supported in leading change.

The underlying philosophy of the project was to stimulate organisational learning. First, QEII United aimed to characterise the existing processes, then to raise awareness of them for staff. Bohmer⁴ characterises the knowledge state of an organisation based upon the problem-solving style in use: it may solve problems in unstructured ways (i.e. trial and error), template the problem (i.e. probe and learn) or simply be applying rules that have matured over time. The progression of knowledge stage and types of problem solving required by our teams changed as the project progressed. Problems became more structured over time, and the early tacit and uncoded knowledge of our players became more explicit as new processes and models of care became codified.⁴ Emergent patterns of behaviour were encouraged using the local action teams, which were able to champion new rules, role descriptions and care processes, as described by Bohn.³ Although many of our solutions had been implemented elsewhere, the exact type, cross-over and mix of solutions remains relevant to a particular facility and decided upon by locally formed teams.

Taking the time to really make sure that all views, positive and negative, are canvassed as part of early high-level engagement before a more focused diagnostic phase is important for two reasons. First, it provides insight into the underlying culture, systems and prevailing thought processes; second, it allows the building of trust to commence from the outset of the process. Traditional vertical reporting lines were retained as part of the project, as executive sponsorship, but local teams were empowered to make significant changes within more horizontal structures. Edmondson⁹ describes how teaming is promoted when the participants feel psychologically safe enough to speak up so that discussions are productive and failures become constructive to further foster innovation. The removal of hierarchy from the local action teams was done specifically to promote emergent leadership and internal accountability in order to achieve local outcomes.⁹

Key to the successful outcomes of the project was the high level of engagement of clinicians and operational staff, and not necessarily just those on a team. Konrad¹³ identifies high-involvement work practices where employees conceive, design and implement change as being associated with enhanced performance and outcomes. High levels of engagement can develop positive beliefs and attitudes that lead to discretionary effort, which was demonstrated throughout the project. Allowing staff to identify challenges and empowering them to design solutions and implement changes through the formation and support of local action teams has resulted in improved key metrics and teams that have remained active after completion of the project and who continue to create value.

Conclusion

Clinical redesign does not have to be an outwardly formal process. In this case, a football sporting team metaphor was used to engage staff and create an environment where teams and teaming could occur. Our empowered multidisciplinary local action teams provided the opportunity for 'players' to view hospital systems horizontally, much the same way in which patients themselves see the hospital when moving between clinical areas. Communication, shared goals and the building of

trust were key challenges for the project team, who were able to improve relationships, foster shared understanding and align staff. The provision of a psychologically safe environment for staff to test and refine processes, outside of traditional reporting lines, has built momentum for the sustainability phase and provides a platform for consolidation of new processes and the opportunity for ongoing redesign and quality improvement activities.

Competing interests

The authors declare there are no competing interests.

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